

- Using standard slates, digislates, or filmcodes, InDaw on-the-fly syncs HD & SD video tapes to any fps audio files
 - bounces multitrack BWF files to stereo
 - regenerates ALE lists

All audio medias are welcome

InDaw made a name for itself by speeding-up image and sound syncing that video dailies require. InDaw-MX now converts all the recording forms - analog tapes, digital tapes, I6/24bit 48/96Ks poly or mono files from Cantar, Deva, PD-6, Portadrive multitrack field recorders- into the polyphonic two track 16bit BWF files that image editors require.

Using the file name **FileTags** instead of the audio tape IDs, the conformation of multi track original files to the CMX EDL out of the editing station becomes an automatic task.

Audio-sync dedicated

Right after the telecine session InDaw realign the Keycode in-points and adds its own post-synced AudioTC to generate clean and complete FLeX/ALE transfer lists which speed-up NLE digitization. It also burns Characters and Vitc on off-line copies of the master video tape. InDaw-MX handles 16 & 24 bit polyphonic & monophonic BWF files ; UDF, FAT32 & FAT16, imports up to 8 channels from DVD-Ram and FireWire hard drives ; is Ethernet networkable and burns CDR & DVD±Rs.

Smart tape-to-disk recorder

InDaw tidies up the many LTC and audio sampling rate mismatches film/video post engineers encounter. It eliminates the drift between the DAT sampling clock and the time-of-day recorded on the LTC track. On documentary sounds it can add up silent leaders at the head of the audio files to let the Avid MC 'group clip' get the first images of a camera starting nine sec. before the audio recorder.

Automatic accurate Slate-Finder

While monitoring the tape-to-disk transfer, the operator on-the-fly puts 'Prelocators' on slate announcements ; he also keys the scene/take IDs and enters wild-sound tags. 'SlateFinder' then detects clapsticks with better than human precision and stores operator entries showing on printed reports and in the Avid v.l.l.n, XPress-DV v3.5, FCP4 audio bins.



Ultra-fast On-the-Fly audio Post-Sync

As opposed to several seconds on other systems, InDaw syncs the sound in less than 40ms at the head of each video take. This allows for uninterrupted post-syncing of a video tapes on both SD and HD tapes. Whatever the sound and video standards, InDaw eliminates jitter and glitches: a sound recorded in a PAL environment can be dubbed on a drop-frame NTSC video tape!

PostSync sorts wild tracks and records them at the tail of video tape dailies; their on-location AudioTC is correlated to the tape VideoTC, and inserted into the ALE transfer list.

List maker for editing auto-sync

InDaw tunes the video take in-points on both Keycode and VideoTC, adds the AudioTC of the slates, and creates a rejuvenated and ultra precise ALE transfer list.

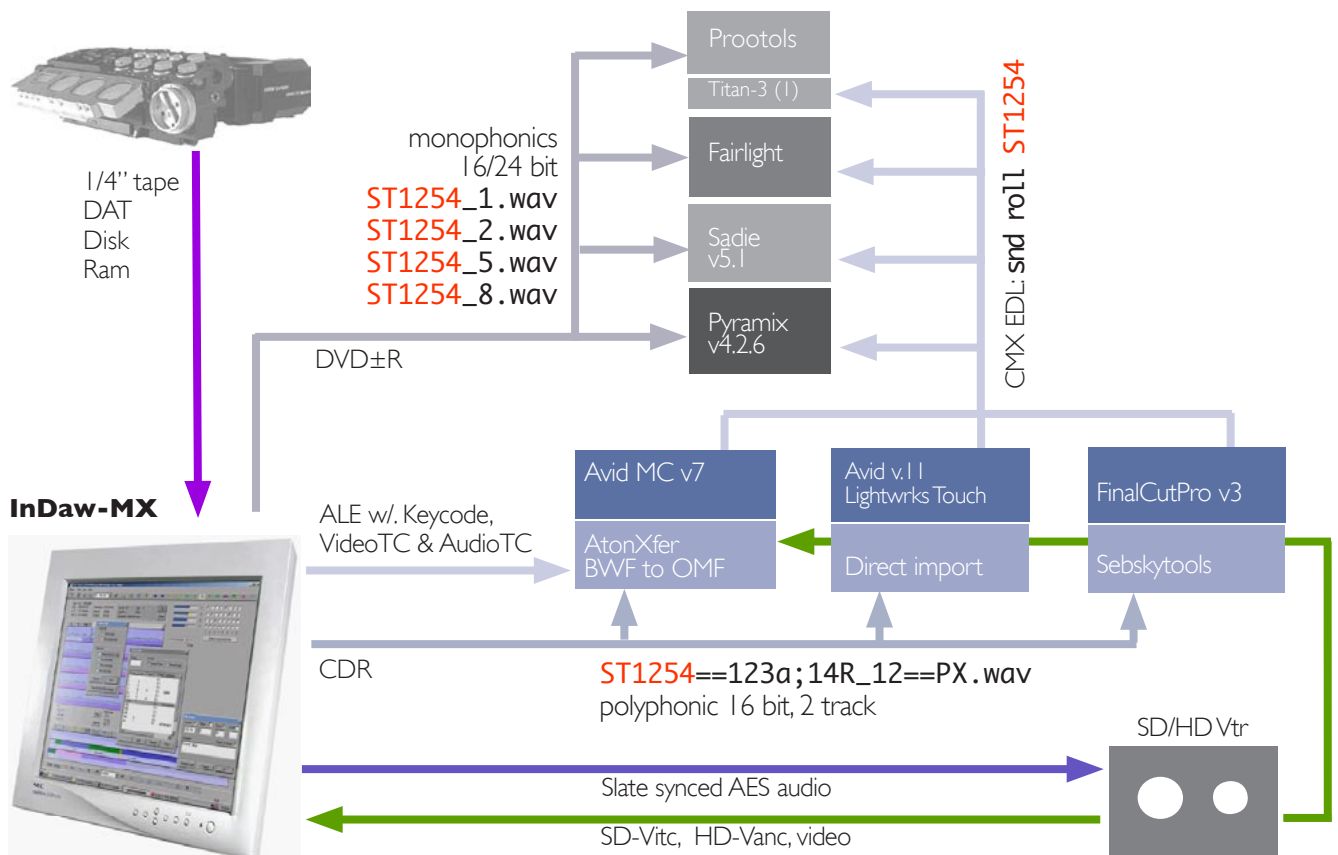
A very useful feature in these HD and SD days: InDaw converts downconverted PAL transfer lists back to the HD24 'father' and from there to NTSC ALEs.

Exported to the editing system, these ALE lists ensures instant auto-sync between images and sounds imported as BWF audio files.

InDaw files are directly read by Lightworks Touch, Avid v.l.l and Xpress-DV v3.5, by FCP-4 with Sebskytools, and by Avid v7 through the AtonXfer bwf to omf converter.

Audio-post flow-chart

The Aaton 'Taketags' (e.g. **ST1254**) generated by InDaw ensure automatic conformation between the bounced 16bit files bringing Sc&Tk IDs to the editor on CD-R, and the 24bit original files carried over to the final mix on DVD+R.



1. Titan-3
<http://www.synchroarts.com/>
2. AtonXfer
<http://labs.aaton.com/>
3. Sebskytools
<http://www.dharmafilm.com/sebskytools/>

user manual for InDaw-MX v7 (Win2000/RTX5) and for InDaw-6 v6 (no mix-down) (WinNT/RTX4)

Disks and partitions

The InDaw internal hard drive is delivered with either 5Gb or 706 Mb partitions (706 Mb is the space needed to burn a 60 min DAT onto a 700Mb CD-Rom). If removable hard drives are used as go between to a DOS Keylink, format them FAT16. NTFS and FAT32 formatted disks are handled by Windows-2000 (InDaw and Keylink-IP).

Note: DVD-Ram disks and old CD-R burners are not fast enough in playback mode to postsync a 4-channel/24 bit file.

Starting Windows

Before switching-on the PC, all external Scsi devices (CD-R burner; DVD-Ram, removable hard drives etc.) must be 'on' and their activity light no longer blinking. Verify the BIOS is set to boot from the local hard disk and not from removable disks. Windows Logon is «indaw», password is «indaw». A double click on the InDaw icon (flower) starts RTX-5 then InDaw.

Starting InDaw

Click (1) to open the 'Project manager', click 'All projects' (70) to show the internal, external and networked drives with their available memory as well as the folder occupied space. The upper buttons sort the projects by ascending or descending dates or titles. Click NEW and enter an 8 char: project ID and a title (several projects can be stored on the same disk partition). Hilite the partition you want to work with, double click it to create a directory carrying the project ID. You can now either record AES sounds (see next page), or import audio files (see below).

Importing audio files

As a general rule, avoid to modify a client's disk, it is safer to work on a copy!

Hilite a 'target' folder (68) belonging to a project, click import (67), the 'xxxxAAI' folder name shows on (24). Click 'browse' (22) to select the 'source' folder to import. Activate 'recurse' (23), to get files from all subfolders and not only the files stored at the folder root.

Select the processing parameters:

- * 'replace .wav extension by .bwf' (25). To become 'eatable' by an old Avid v7, BWF files should be OMF converted by the AtonXfer application which only works on polyphonic files having a .bwf (not .wav) extension.

- * 'disinterleave BWF-P files'. Converted to a set of BWF-M monophonic files, the original Fostex PD6 polyphonic files can be bounced to another polyphonic

16 bit stereo file for Avid and FCP editing machines.

- * 'desactivate waveform generator' shortens the import duration but eliminates the waveform creation which is essential to locate the slates. Don't do it.

- * 'add presilence' allows the TLC to cue InDaw on a non existing audio address during telecine preroll.

- * 'TC fps'. The project frame rate must be manually entered if the field recorder didn't store it in the best chunk. This is indicative only, not related to the audio signal physical references at all.

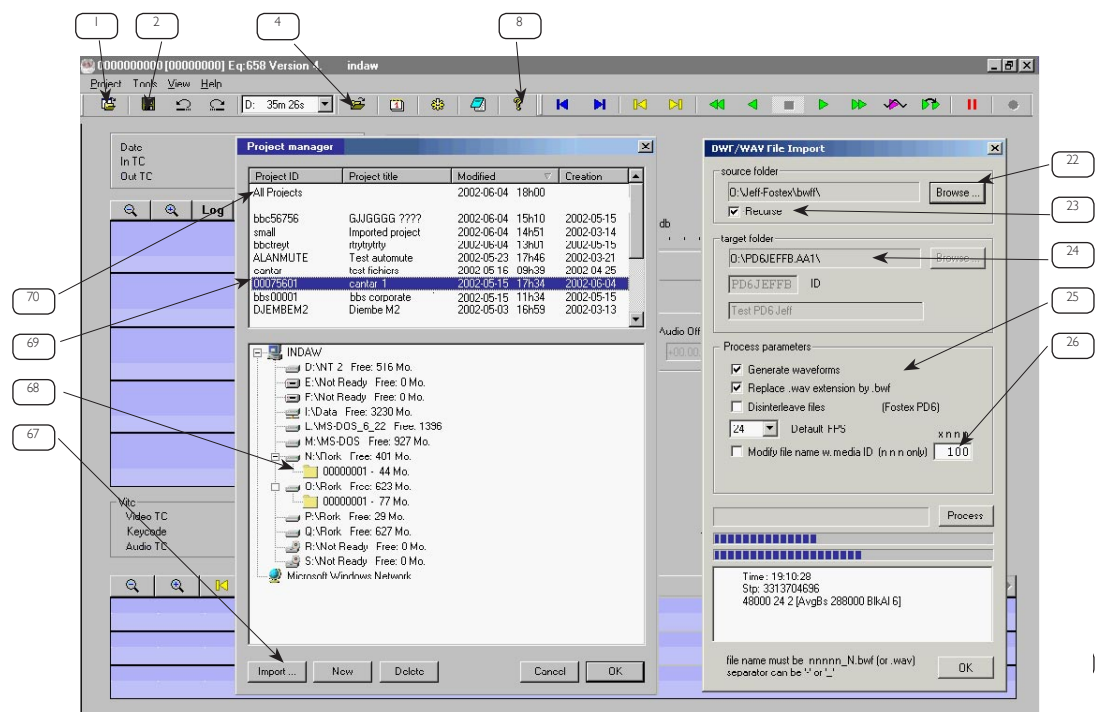
- * 'modify filenames' (26), the Deva-II 'zax' prefixes must be replaced by the media ID to allow file sorting between files recorded on successive disks. DO NOT modify Cantar filenames, they already offer 'garanteed unicity' (see Aaton file naming in FAQs page 13).

Exporting, merging & deleting files

To merge files of the same project spread over several partitions, click [CTRL C] on the highlighted folder and [CTRL V] on the target. If you must erase sound files to get disk space, do not [Del] the project, it could later save your day to be able to reimport audio files from CDRs and retrieve their transfer lists and sync points in the database. To delete some files only, open the folder (4), select the files and [Del].

ShortCuts

[Ctrl R] resets menus to their default position. [F1] opens a shortcut list while the mouse pointer is on the video time line or the remote control window. After loading a project, [F2] shows its allocated size and number of events.



Tape to disk recording

Recording Parameters

Click on the 'pause' button (15), the 'recording parameters' menu opens:

Source ID (26)

The audio tape identifier entry is mandatory, it shows on (74). The following parameters are attached to the whole project.

Source type

Should be 'digital AES'; 'analog' is used for factory tests only.

Channels, Rate, Depth

Incoming and internal rates can differ, e.g. a 48,048K sound can be recorded at 32K to save disk space, a 44.1K CD can be converted to 48K. Whatever the choice, InDaw always outputs 48Ks/s unless a different Audio Speed Playback value is selected.

File type

Interleaved (polyphonic) for stereo sounds to Avid; non-interleaved (monophonic) for sounds going to final mix.

Latency

separate audio files are created by TC discontinuities: *sound-recordists should always select 'free-run' instead of 'record-run'*. The latency is the time taken for the drop-out filter of the playback machine to output a new TC after a break. To adjust latency, record a tape on which take N carries a 400Hz and take N+1 a 2kHz tone, copy this tape on InDaw with different latency values; the right value puts the take start at the frontier, e.g. 1700ms for a Sony PCM 7040 in 'wide' mode, 300ms in 'narrow'.

Note: It is advisable to permanently jam-sync audiotape recorders to a TCXO crystal (such as an Aaton GMT) to avoid any drift with ArriCode/ AatonCode recording cameras.

Pre-Silence

adds one to nine seconds of silence at the beginning of each audio file to let the Avid AutoSync* create non-truncated subclips even if the sound engineer starts his machine after the cameraman.

* AutoSync puts the take in-point on the first sound-image common TC, thus if the sound starts rolling after the camera it is impossible to get access to the first images of a take!

Nagra4 offset

This 'audio to TC' delay must be entered for 1/4" tape copy only, 80ms is a standard value @19cm/sec.

End of record

stops the copy of the tape at the end of an unattended session to avoid filling the disk with silence.

Tape desk control

To get access to the remote control of the DAT playback machine, click on 'tools' (2) then 'remote'. Run the tape for ten sec., verify the LTC timecode appears in (12), rewind and hit the 'record' button (16). The audio-

page shows the waveforms, one minute per line at full magnification (72). To create one-file-per-take from tapes recorded in record-run mode, click the 'record' button or [right Ctrl + right arrow] on the fly.

DAT tape

Do NOT connect the deck to any external reference be it house video or word clock, let InDaw handle the drifts and sample rate / LTC frequency discrepancies by itself!

1/4" tape

Use an analog to AES external converter; and feed the AES input.

Important notice: Do NOT connect the Nagra nor the A/D converter to any external reference (see above).

To copy analog 1/4" tapes with no TC, auto-resolve the pilot signal to an Smpte LTC reference and send that Smpte reference to InDaw.

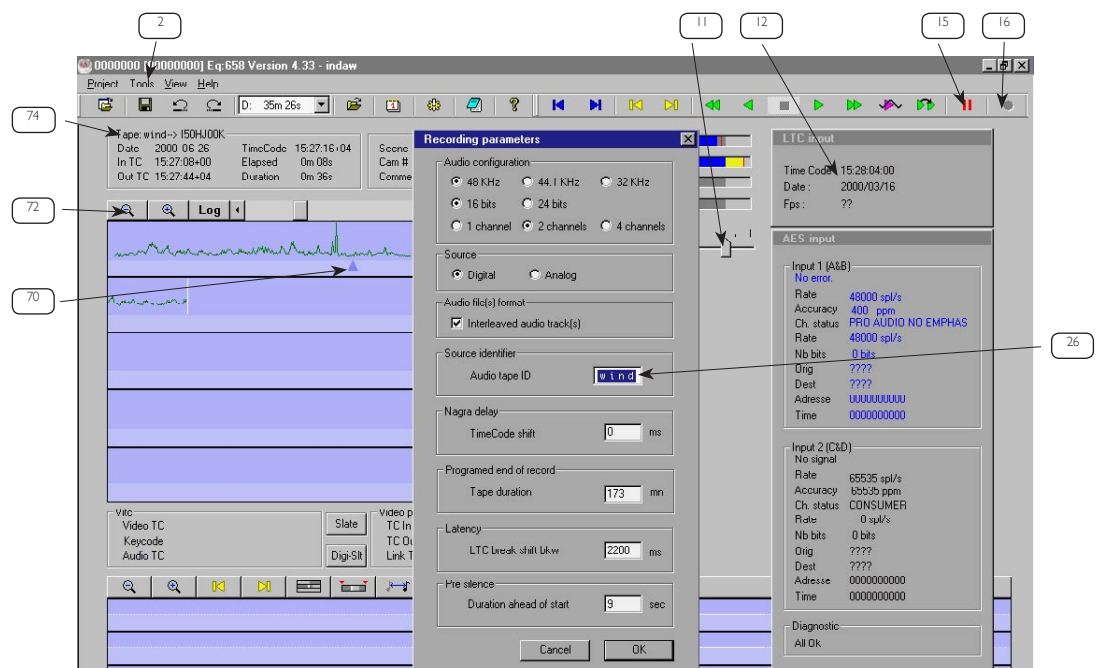
If there is no LTC time code on a DAT, InDaw provides the TC keyed by the operator or the PC clock time and date.

Slide the level cursor (11) to the desired warning value, e.g. -18dB; this cursor can also be used as a precision dB meter by sliding it along the bargraphs.

Prelocators

To speed-up the slate-finder operations to be done later; hit [Space] on slate announces; this lays down a 'prelocator blue triangle' (70). Key-in the Sc&Tk IDs in the dialog box. *Prelocators identify the successive takes on 'record-runTC' recorded DAT tapes which generate very long audio files.* To allow automatic wild track sorting if need be, add a 'w' prefix to the wild take IDs, e.g. Scene = 45a, Take = w3.

Clicking a line in the 'prelocator edit' box allows for its correction during recording, [enter] to validate or [esc]. Hitting [space] puts the focus on a new prelocator dialog box; closing this box refocuses the 'prelocator editing' box on the editing-in-progress event.



**Avid X-press &
MC v.1.1 import
BWF files and
display InDaw's
Sc&Tk IDs.**

SlateFinder

Double click a file in the folder list (4) or click blue arrows (8) to open the successive files of the folder. A mouse left click in the audio-page plays and stops the sound. The (14) button forces continuous playback of contiguous files.

[TAB] sends the SlateFinder window over the blue **prelocator** triangles entered during recording. A mouse right pressure re-opens SlateFinder and allows you to shift/reframe it; releasing the pressure opens a zoom window where the slate is auto-located, a mouse right pressure in this (27) window allows the operator to drag a narrower frame over the slate. He then can drag the slate mark to a better position in case a slate rebound fooled the auto-locator. Key in (28) to modify the 'pre-locator' entries if need be. The 'keep' boxes forward carry entries into the next slate. You can anytime Edit or Delete entries by (9). [TAB] makes the SlateFinder jump from one slate to the next.

A slate-mark creates a colored **slate domain** arbitrarily starting two sec. ahead of the slate, this domain can be extended or reduced by [CTRL CLICK] tail only, [CTRL CLICK] head only, [SHIFT CLICK] tail and head.

Reminder : when prelogging a tape recorded in record-run TC mode there is no TC breaks, the slate laydown arbitrarily creates sc&tk domains but does not split the long audio file itself.

Wild Tracks

When [TAB] lands on a wild track 'w' marked slate, Prelog lays down a take separator two second ahead of the 'w' mark, like it does for sync-sounds, but since the in-point of a wild-track is not later set by a video-take in-point, it must be set by hand (see slate domain extension above).

Note: if the auto locator can't find a 'slatable' event in a quiet part of a wild track, you can force a 'slate mark' by a mouse right click in the (27) lower zoom window.

Shoot-Date Integrity

When auto-syncing files on an Avid v10.5 or a Keylink InstaSync, the Date (73) is *mandatory* to differentiate sounds carrying the same TC

Name	Start	End	Shoot Date	Tracks	Scene	Take	Comments	TapeID
4506190T BWF	15:53;12:00	15:54;18:13	2001/03/23	A1	125/2a	12d	Tam tam in maintenance shop	D145
4506180N BWF	15:53;12:00	15:54;18:06	2001/03/23	A1-2	125/2a	12e	a little borish'n't it ?	D145
06180R_4 BWF	15:53;12:00	15:54;17:15	2001/03/23	A4	125/2a	12c	Tam tam in maintenance shop	D145
06180R_3 BWF	15:53;12:00	15:54;17:15	2001/03/23	A3	125/2a	12c	Tam tam in maintenance shop	D145
06180R_2 BWF	15:53;12:00	15:54;17:15	2001/03/23	A2	125/2a	12c	Tam tam in maintenance shop	D145
06180R_1 BWF	15:53;12:00	15:54;17:15	2001/03/23	A1	125/2a	12c	Tam tam in maintenance shop	D145
06180P_2 BWF	15:53;12:00	15:54;17:19	2001/03/23	A2	125/2a	12b	Tam tam in maintenance shop	D145
06180P_1 BWF	15:53;12:00	15:54;17:19	2001/03/23	A1	125/2a	12b	Tam tam in maintenance shop	D145

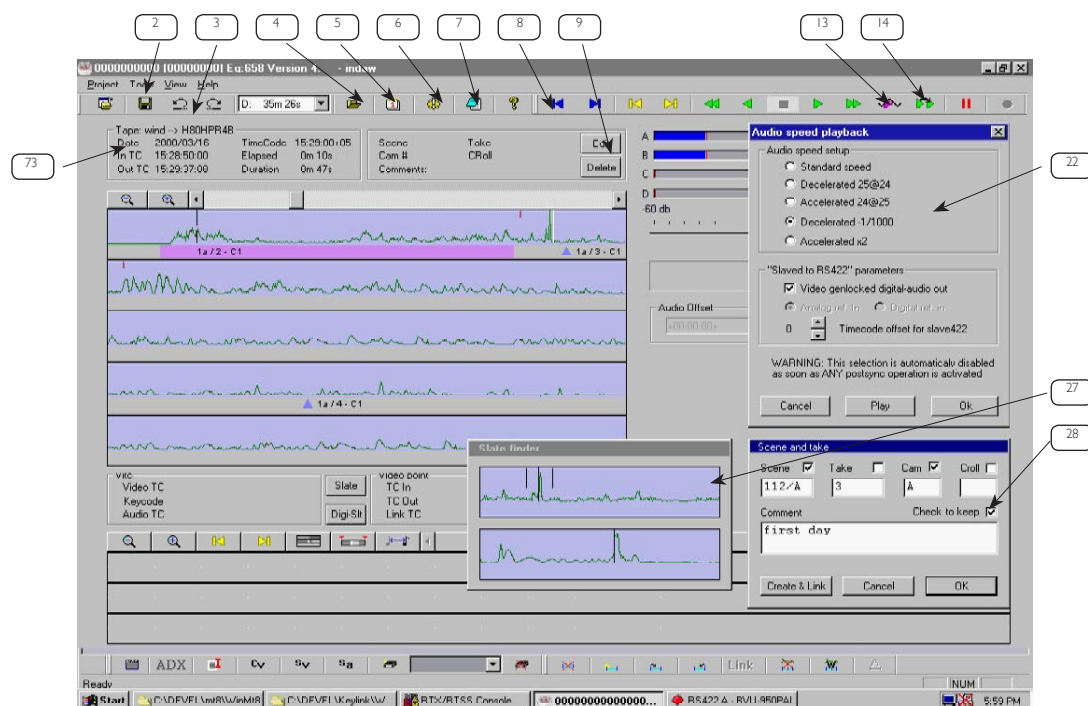
Avid composer v10.6 imports BWF files. Wild tracks, handles, and non-selected takes are directly available to the editor. Sc&Tk and comments that InDaw writes in the BWF <bext> chunk show in the audio import bins.

on successive days. Since most recorders write the date in a wrong order or no date at all, verify the raw user bits in the *file headers* (6). If the user bits are not recorded in the yyyy-mm-dd ISO standard, InDaw can't decypher them; an human only can guess the date, eg: 1206-9901H is 1999-12-06. Click on 'calendar' (5) and enter the correct date which can be applied to the 'current file' or to 'all following files'. (see also: 'ignore date' in SyncA page 9).

The PreLog report (7) sorted by date & time shows Sc&Tk IDs. These IDs, recorded in the BWF <bext> chunk, are read and displayed by Avid MCs v1.1.

Undo/Redo

Click on (3) or [CTRL Z] to undo, and [CTRL Y] to redo an editing command. 10 levels of Undo/Redo are available.



PostSync (1 of 5)

2line or 3lineVltc, PostSync tunes the take in-points, adds Audio-Tc, Sc&Tk and comments to ALE/FLeX lists going to the editing room.

PostSync is achieved in four steps: setting the VITC / VANC reading (PostSync-1), creating a video indexed Take-Timeline (PostSync-2), linking audio events to their correlated video images (PostSync-3), syncing the tape in one go (PostSync-4).

PostSync-1 Video TC reading

To ensure absolute frame accuracy and lock the AES-out sample rate to the VTR or house video, all PostSync operations rely upon the videoTC extracted from the VITC signal by the video-reader board.

The video LTC received from the RS422 (\pm one frame precision) is only used to remote-control the VTR, not to sync the sound.

The EE mode (Electronic Editing) of DVCam DSR-2000P should be 'off' since it makes for a 3 frame delay in the VITC out. The confidence mode of Digibeta should be 'off' since it makes for a 2 frame delay. If a **gray bar hides** the VITC area, activate the dynamic tracking (DT) of Beta-SP VTRs to get the bar out of the VITC area. [Shift *] or [Shift -] can also be used on non dynamic tracking equipped VTRs.

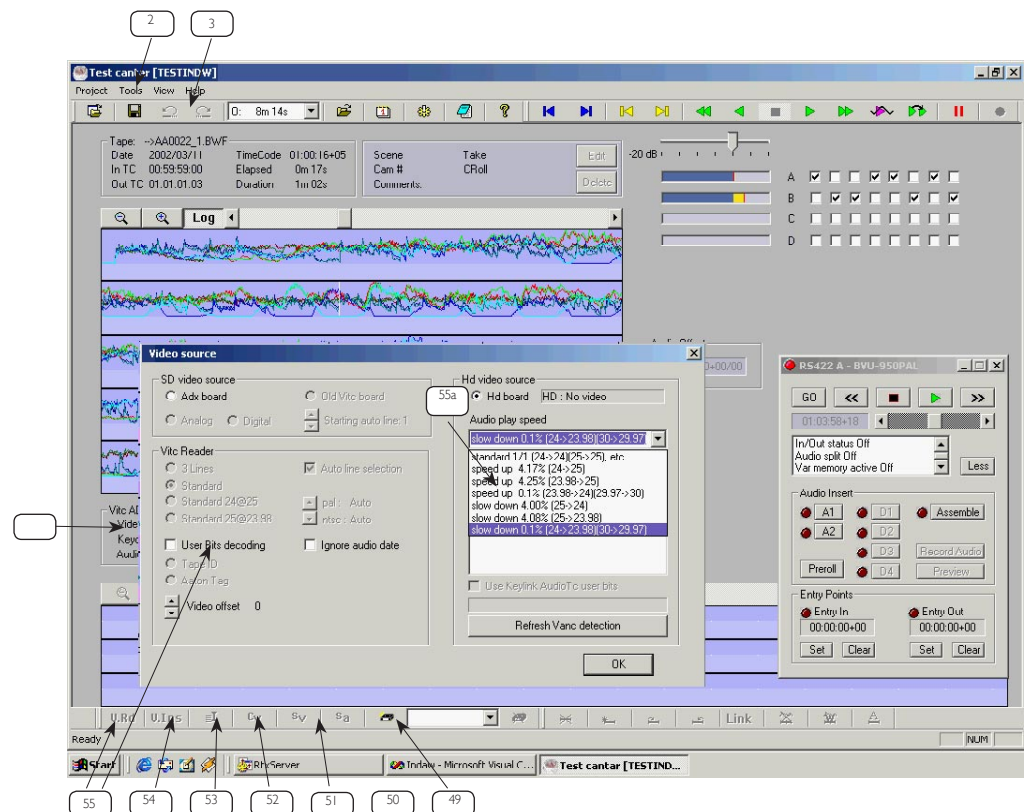
SD Vitc-Reader In the (55) menu, select ADX board then 'Analog' or 'Digital' as the syncing source, select manual or AutoLine selection. In this later case, because some HD downconverters carry a 'VITC like' signal on the upper lines which prevents the VITC reader to see the Keylink / Passage keyed 3LineVITC, select line 10 as the start of automatic-reading . Note: VideoTC, Keycode and AudioTC readings (65) should appear in blue figures with higher than 80% reading rate.

HD Vanc-Reader In the (55) menu, select 'HD board' and the various (de)accelerated play speeds in (55a). Since it carries the film keycode, the default 'Film Vanc' should be

selected in most cases.

Note: for those who do not use an HD board, it is possible to shift the VideoTC read on the SD VITC by ± 10 frames. This allows to generate a 'N frame forward shifted' sound to be recorded on a HD tape of which the SD downconverted VITC (inserted by Aaton PASSAGE) drives InDaw. This delay devalidates all other functions, and makes the VITC readings (65) appear in red as a warning ; for safety it is set to zero each time a new project is selected.

SD Video-Keyer The keyers (54) insert VITC and Characters into two analog and two digital channels. If for some reason the tape must keep the VTR inserted 2LineVITC, Keylink should have inserted its 3LineVITC on top of these lines, e.g. 3Line on 13 14 15 whilst 2Line is on 16 18. The video tape ID which will be InDaw inserted in the Characters is the InDaw keyed value if Cv & Sa are 'on', it will be the one found in the Vitc user bits if Cv&Sa are 'off'.



PostSync-2: Take Timeline

Turn off the keyboard Num Lock for the numeric keypad to behave as a VTR controller:

- 0 Pause
- Play forward sync speed
- One shot forward (5 to 2.5 jog while pressed)
- [shift -] Slow forward while pressed (.01 to .1)
- + Shuttle fwd at 4.5x; then 10x to 100x after 2s
- * One shot backwards (5 to 2.5 jog while pressed)
- [shift *] Slow backwards while pressed (.01 to .1)
- / Shuttle bckd 4.5x; then 10x to 100x after 2s
- [F3] Opens GoTo window to cue VTR on keyed TC
- [Ctrl P] Edit VTR preroll length

Clicking the red button (21) of the VTR remote control menu opens the submenu (24) in which 'Shuttle speed' is used to adjust the shuttle commands (71) to operator's preference.

Using ATN/FLEX telecine list (recommended)

Click on (49) to open the 'New Video Tape' menu, then click [Import tape ID from ATN or FLX], select the video tape ID to work with, 'Create a TimeLine?', answer YES. (The VTR remote control box (21) shows, it can also be opened by 'Tools' (2)). Provided the video tape carries a TC found on the ATN/FLEX list, a video time-line made of the colorist 'tabed' breaks shows. These preloaded breaks considerably speed up the Postsync operations since the remote control shuttles the VTR to any start-of-take and to any slate by a simple click on the time-line color frontiers (63), or on the yellow triangles (62). If there is 2lineVITC only on the video tape (i.e. no keycode data in the VITC), importing the ATN transfer file (53) makes InDaw regenerate the transfer list by inserting the Keycode from the first image of each take and by adding the Audio-TC of sync sounds.

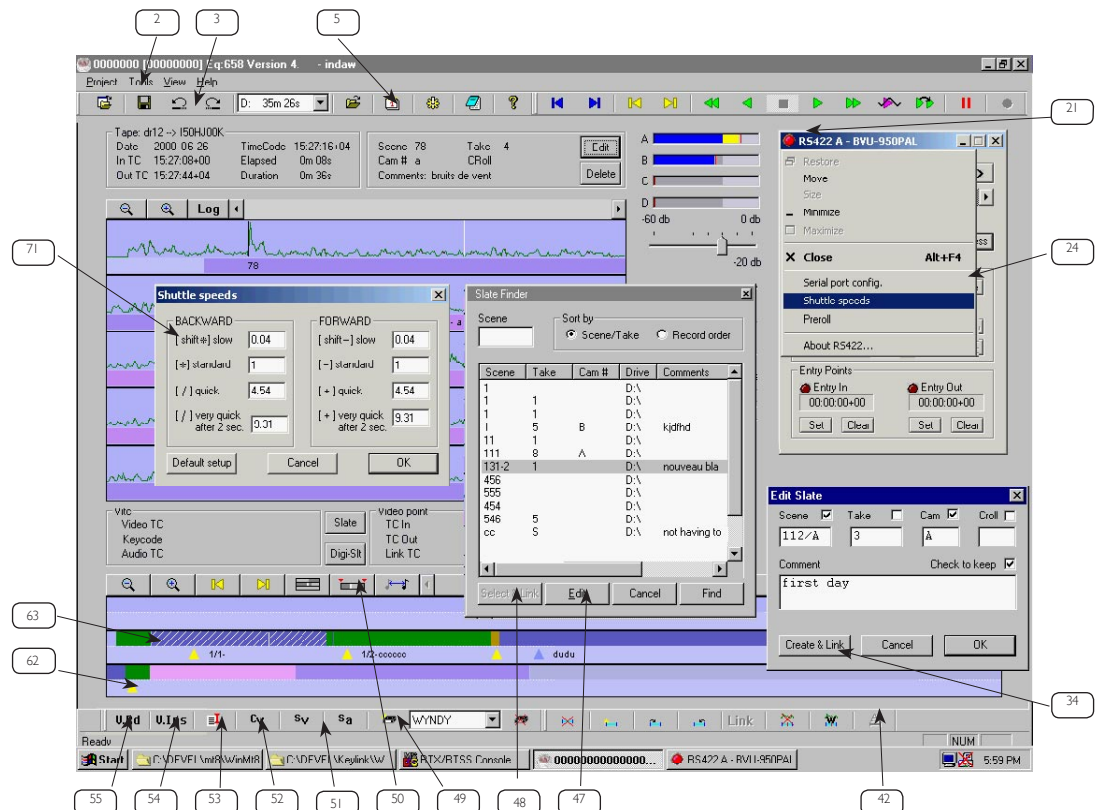
Not Using ATN/FLEX lists

If there is no telecine transfer list coming with the video tape, you must create the

video time line yourself. Click on (49) to open the 'New Video Tape' menu, and key-in the new video tape ID, the VTR remote control (21) shows (also opened by 'Tools' (2)). The video time line is created by keying in-points with [CTRL F9] while the VTR is parked on the first image of each take, or entered by sync slate or mute slate linking (see later) which lay down their own in-points.

Timeline tuning To move an in-point backward, first hit [F10] to shorten the invaded take, then [F9] to relocate the start of the following take. To move an out-point into the next take, hit [F9] to shorten the next take, then [F10]. Note: when importing ATN, the by default audio/video link points (blue triangles) show at the start of takes, it is thus impossible to move the in-points down these triangles; you must first delink [F11] then relink the take with its own slate to shorten it down the original in-point.

OK/NG takes A take can be marked as NG (hatched) and back to OK (solid color) by keying [Ctrl G] or clicking the happy face while the white play-stick is in the take's colored area.



PostSync-3: Video/Audio Linking

Clapsticks VTR stopped on a slate, [F5] opens the slate finder; double click the corresponding slate line (to edit it key [ALT E] (47); 'select&link' by [F12] or click on (48), a yellow triangle (62) shows; to unlink, key [F11]; to correct the 'Sc/Tk & Comments', key [SHIFT F12]). To make the sound follow the video playstick, activate the CatchV (52) button. [SPACE-BAR] (de)activates CatchV; the operator can thus go back and forth between PostSync and PreLog for slate tuning or forgotten slate creation in the audio waveforms panel. The Create & Link button (34) is used to directly add these slates in the editing slate box (28).

Digislates click [F6], key-in the time & date showing on the slate, the playstick lands on the corresponding sound, link it by [F12]. If there is an AUDIO-TC stored on the VITC line3, it can also be automatically entered by clicking the 'grab from VITC' field.

AatonCode In this mode there is no need to perform image-to-sound links, they already exist and are recorded on line 3 of the 3LineVITC. The operator only has to shuttle through the take colored domains, fine tune their ins and outs, enter by [SHIFT F12] some 'Sc/Tk & Comments' which will appear in the rejuvenated ATN & ALE lists and in the BWF <bext> chunk that Avid v10.6 and v11 read and display.

Mute Takes If there is no slate/no sound during a video take, [CTRL F12] creates a take in-point and makes a link to a 'Time 00, Day 01' non existing sound. This allows the system to catch the keycode from the 3lineVITC and let the list manager incorporate mute takes in the ATN. Since there is no need in this case to listen to the clapper announce, the take in-point starts from the keying (not two seconds ahead like synced takes).

Labroll ID The audio prelog operations happen at a time correlated Labroll IDs are not yet known. These IDs, entered at telecine level, are exported to InDaw through ATN or FLEx lists. But if for some reason VITC is used only, there is no trace of Labroll ID, be it 3LineVITC even. After syncing a video event, the operator must press [Shift F12] to open 'Sc/Tk & Comments', and

enter or edit the labroll ID. The following events will show the same ID carried from one to the other.

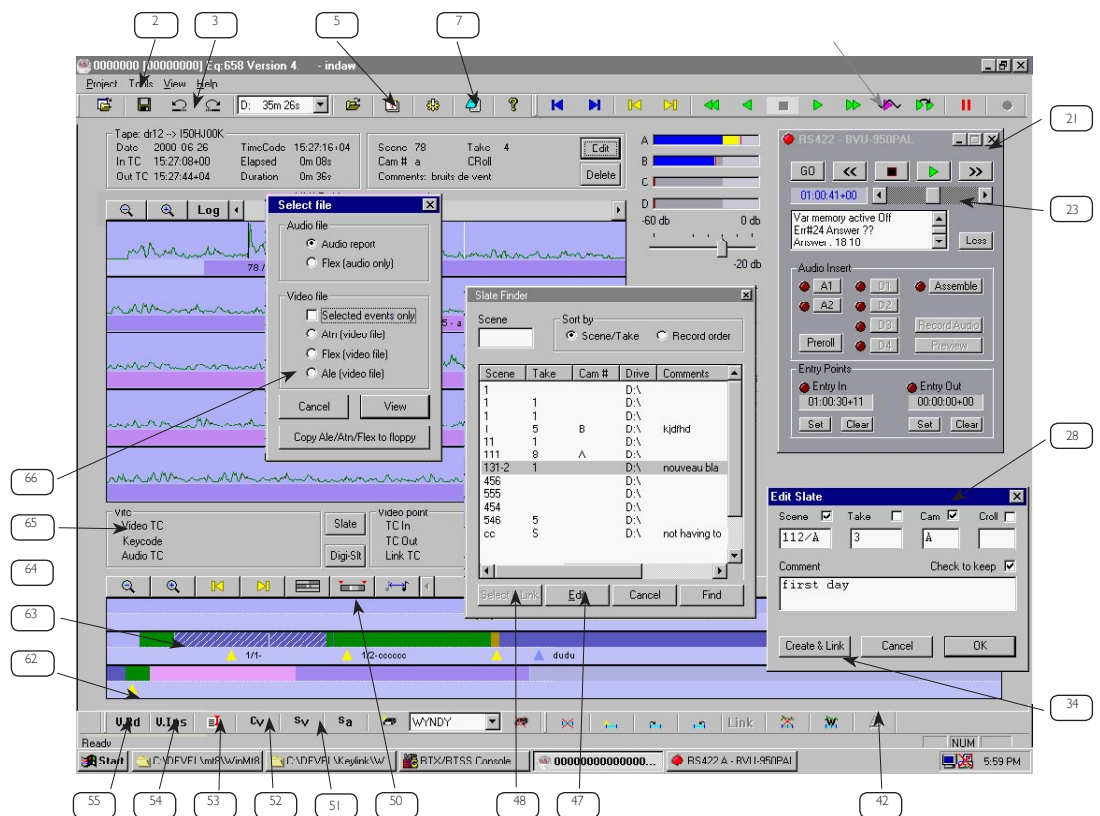
PostSync Tips:

***re-edit a linked slate,** shuttle the VTR to the slate by clicking over its yellow triangle, unlink it by [F11] or delete by [DEL], (uncatch Cv), key [ALT E] (47) and link again by [F12].

***lay down and link a slate,** stop the VTR on the slate, Vtc lines must be blue, zoom over the wave form of the slate, the Scene/Take box opens; key the Sc/Tk IDs and press [ALT+F12] or the [Create & Link] button (34). The slate mark shows on the wave form and is linked to the current Video-TC.

***test a just-synced slate,** first activate the audio insert button A1 or D1 etc. in the remote control menu then make a [RIGHT CLICK] over the yellow triangle: video and sound are played two sec. either side of the slate. [CTRL RIGHT CLICK] records the test to allow for closest verification, by jogging the Vtr. To jog the VTR at low speed, click on the -0.1 or +0.1 fields (23). Reminder: the [<] [>] keys help fine-tune the sync point by frame quarters up to 8 frames.

***undos & redos,** click on (3) or [CTRLZ] to Undo, and [CTRLY] to Redo editing commands. 10 level depth.



4-FollowSync

Once all video takes are linked, click [I/O ENTRIES] (50) to set the recording in/out entries of the remote control menu (20). Select the VTR audio channels and key [RECAUDIO]. Verify the VTR's VITC is correctly read: (65) readings must be blue. The camera-fps is stored in the 3LineVITC line2, but if 2lineVITC is recorded only, manually select STD (1/1) or 24@25 or 25@23.98 (to sync a 25fps shot film to NTSC). The Indaw video-synced sample rate converter eliminates the clicks on the vari-speeded audio directly recorded on digital VTRs.

CatchV (52) is used to on the fly sync Slated links. The audio disk chases the Audio TC through the [F12] entered links to the video-TC found on the HD FilmVANC, or on line 1 of the SD VITC (be it 2Line or 3LineVITC).

SyncA (51) is used to on-the-fly sync AatonCode or digislate synced video tapes. The audio disk instantly chases the Aatoncode audio-TC Keylink recorded on line 3 of the 3LINEVITC. If there is a discrepancy between the 3LINEVITC date coming from the film and the disk recorded audio date, syncing is impossible; correct the date in 'calendar', see Prelog (5), or click «ignore audio date» in the VITC setting box (55).

SyncV (51) makes the video timecoded sound chase the VideoTC of 2LINEVITC tape. To be used to sync DV tapes carrying the same video TC as their audio recorder companion.

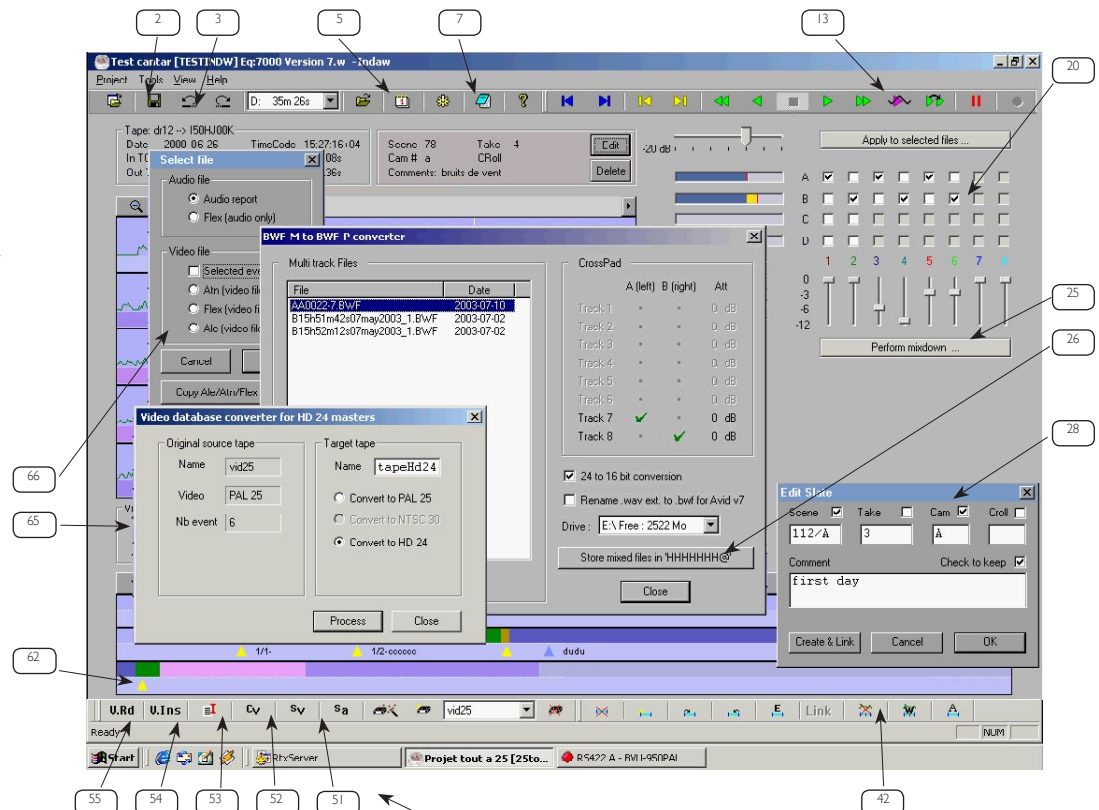
SyncA & CatchV can both be activated to sync a video tape on which some takes are AatonCoded and some other are clapstick linked.

Audio offset In both SyncA & SyncV, the offset window shows h:m:s:fr. & 1/4. [ALT +] [ALT -] move the AudioTC by frame

quarters, [LOCAL] applies to one file, [ALL FILES FWD] to the following ones. This is to be used to sync digislates which often show a two frame delayed LED display. Entering a progressively increased offset and applying it to all files forward is used to compensate the drifting clocks of audio recorders vs smart digislates.

5-Wild Track sorting

The wild track separators arbitrarily laid down by PreLog two second ahead of the w-slates should be re-positioned (with [ctrl+mouse click] in the colored space underneath the audio waves), before starting the wild track recording on the video tape at the end of the audio-synced takes. Park the VTR on the out-point, click [BUILD WILD LIST] (42) which sorts the w-slated takes to be linked to the VideoTC. If the tape is not pre-tracked, hit [ASSEMBLE].



6-Rejuvenated transfer lists

Click (7), the (66) menu opens. Activation of 'Selected events only' and 'View' shows the selected event list. Click 'Copy etc.' to generate NNN.ALE and NNNSEL.ALE lists ; the SEL suffix identifies the list in which the NG marked takes don't show. SEL files are stored alongwith non-SEL files in case the editor later wants to later digitize the NG takes anyway.

To archive ALE lists stored on C:, open the InDaw directory, select the tape #, and make a copy.

If the Avid editor imports the BWF audio files from a DVD or CDR, and then performs autosync between the ALE linked sounds and images (no use of VTR audio tracks A1 A2), the Indaw operator should select 'V only' when generating the ALEs. If the editor wants to use the synced sound of the video tape, the Indaw operator should deliver VAIA2 ALEs.

7-HD/SD converted lists (HD option only)

Click the magic wang cassette box (50), the (65) menu opens. Here you can select the ATN made while PostSyncing the downconverted SDI-25fps PAL transfer and convert it to its HD-24 'father', then re-importing this HD-24 ATN, convert it again into a downconverted NTSC-30 ATN and ALE.

Note: to get a 24fps ATN from an HD Keylink transfer it should be made from the AAH not the AAS AatonRoot.

8- AES on-the-fly Mixdown from 8 to N tracks

The control panel (20) mixes eight monophonic files into one to four AES-out.

Each track can be weighted -3dB -6dB -12dB and selected pairs can be MS decoded into AB. To apply a given file mixdown to several other files, open 'Apply to selected files', then hilithe the sharing files and click OK.

9- File to File bounce from 8 to 2 tracks

A file-to-file mix (25) can be performed to convert 'Monophonic' files into 16bit interleaved 'Polyphonic'

stereo files for BWF-P compliant Avid MC and FCP editing machines. The project ID of the converted files is the original one where an [@] replaces the last [a] figure (that is why the project ID can only accept 7 characters instead of 8, plus a default [a]). A [Mix] sign is added to the project title itself. The crosspad (26) is a reminder of the routing made in the (25) panel.

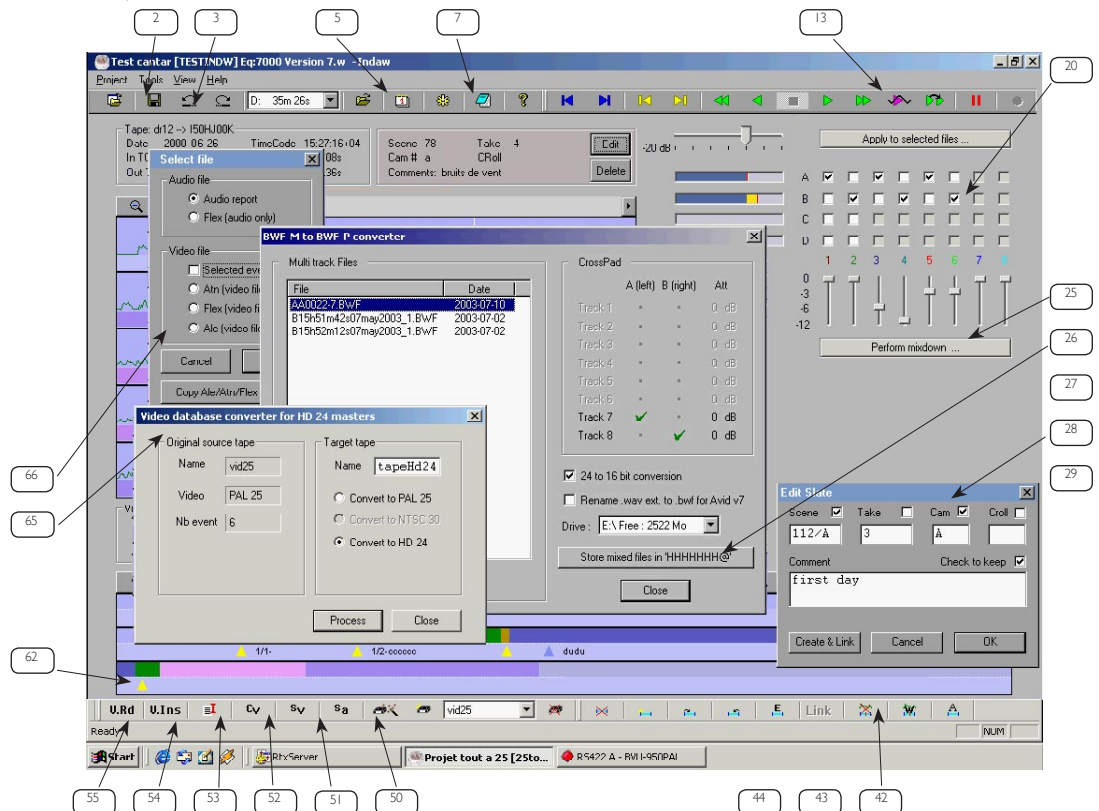
An explanation about the Aaton unique FileTag naming system is on page 13.

10- CD-R, DVD±R burners, DVD-Ram recorders

Open 'Tools' (2) and follow the on screen instructions.

The list of supported DVD/CD burners is on www.aaton.com/indaw/devlist.txt/ If your burner is not in the list you can use an independant burner-driver such as Gear. Exemple: select [DVD-Ram], click [Create], select the format (e.g ISO UDF), drag and drop the files, click [settings], then [write]..

Note: InDaw uses its own drivers to control DVD±R burners (e.g a universal DVD±R /-RAM LG GSA 4081B), but since DVD±R drivers are not able to handle DVD-RAM disks, don't forget to install the Windows DVD-RAM driver delivered with the unit you buy.



the slaved 'Playback' option

Playback option

The 'Slaved to RS422' mode is opened by Tools (2). InDaw plays audio files called by their TC from an Avid MC, Akai D D I 5 0 0 , d a V i n c i TLC master. The COM1 subD25M socket should be used with an active RS232/422 level translator such

as the Addenda model #RS-2/8, www.addenda.com/ and an Rx/Tx crossover cable (*these items can't be delivered by Aaton*). Click (21) to activate the slaved mode, [Local] red becomes [Remote] green.

The Audio Speed Playback menu (22) is opened by the 'Slaved to RS422' selection or by the (13) button. It gives access to two kind of parameters:

Vari-Speed

Audio files can be played at a different speed from the recording speed. On the (22a) buttons select the desired speed: 25@24, 25@23.98, 24@25, f-1/1000, X2, and click [play] to test. The 'internal sample rate' control box shows the frequency induced by the vari-speed choice, e.g. 50000 for 24@25.

GenLock

Vari-speeded or not, when it comes to record a sound on a VTR, the AES-out sample rate must be locked to the video signal –the Genlock selector (22d) must be activated. The 'output locked to' control box shows one of the following messages: [PL]=PAL locked [NL]=NTSC locked (in green). [PU]=PAL unlocked [NU]=NTSC unlocked (out of range video, in red). [?U]=trying to lock but video-in not recognized. [IN]= HD at 24 not genlocked (InDaw uses its internal clock, in yellow).

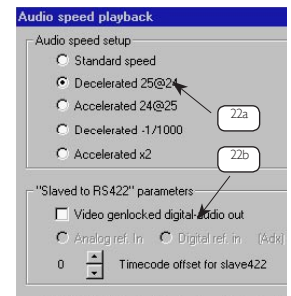
Note this display is reactualised after five seconds of playback only.

Example one: AES transfer to Avid (PAL)

'Slaved to RS422' InDaw finds and plays the files w/ the timecode sent from the Avid RS422 control, and generates AES sounds at the speed set in the Audio Speed Playback menu (22). This mode is used to directly transfer Deva recorded

DVD-Ram into the Avid. Since this operation basically is a file to file transfer (through the InDaw AES rate converters), there is no need for a genlock (22b) to an external video signal. The AES-out sample rate is set by the 48000Hz clock of InDaw, the 'output locked to' window shows IN (for int. clock).

The Audio speed setup (22a) is of great value when it comes to interleave sounds and images shot at different speeds, e.g. a 25fps video tape inserted in a 24fps film project; explanation: the 24fps film originated images are accelerated by the telecine transfer to 25fps; they are played back at their original 24fps by the Avid in slow-down mode. Since the DV or Beta 25fps originated images are under-cranked to 24fps also, their sounds must accordingly be decelerated prior to digitization into the Avid. The 'TC offset for Slave422' should be set to zero.



Example two: daVinci TLC telecine syncing (NTSC).

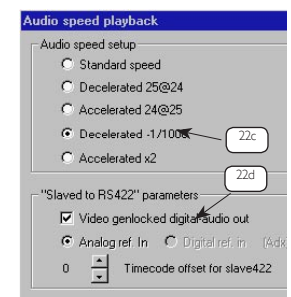
Slaved to RS422, InDaw syncs the sound to the timecode sent by the TLC controller; and generates sounds at the fps set in the 'audio speed playback' menu, e.g. click (22c) to make for a 47950 internal sample rate. The 48000 AES-out must be

genlocked (22d) to the SDI video signal sent to the ADX board. If there is no ADX in your InDaw, an Analog video signal should be sent to the BNC [15, page 9] internally connected to the SRC audio board; don't forget to load the signal with a 'BNC T' and an external 75 Ohm termination.

The type of genlocking signal –Analog or SDI– is selected in the Audio Speed Playback menu. The 'output locked to' window should show NL (NTSC locked).

For the TLC to call for the audioTC linked to a given Sc&Tk slate, it should have formerly ingested the Flex/Audio Only list built by InDaw during the Prelog session. This list correlates the slates to their audioTC (see (7) and (66) page 7). Three FLeX are built:

- AR12345678.FLX (full list),
- ARSlate12345678.FLX (showing slated events only),
- ARSlateCamSorted12345678.FLX (showing slated events (including common slates) sorted by Cam IDs).



HD to SD in sync: the 'Passage' option

Passage is an HDTV Vanc reader, a Vitc inserter and a Char + Logo keyer.

Passage reads HD VANCs and inserts VITC+Characters in the SD channels out of HD>SD downconverters in which the 3:2 sequence is synced to the 00 and 05 timecoded images.

e.g. AJA HD10MD2 or Sony F507-D board with v2.53 software; NOT the F507 board and v2.52.

VANC lines are monitored, metadata is extracted, displayed and sorted in database (dual mode only).

FILMVANC – keycode+audioTC+date+cameraID etc. – and VIDEO VANC are read and keyed as VITC+Characters into the SDI and Analog downconverted channels (Q4 2004 they will be keyed as characters into the HD channel also).

SD VITC to SD VITC+Character keyer

Passage can be used as an SDI post-burner which keys VITC+Characters into the SDI and Analog channels by reading the previously recorded SDI VITC lines, while compensating for the 1/6/9 to 4/3 delay that unsqueezing devices and noise reducers induce.

HD board Installation

Open the PC cabinet, plug the HDK-292 and the ADX boards in the exact position seen on the PC rear views page 16. Connect the twisted Molex cable between the HDK and the SRC board as shown in internal connections page 18.

Software install.

In the "Passage Version" folder of the CD-R, double click psgl nn.exe then click 'I agree'. To get the latest version, go to <http://labs.aaton.com/> and download it. Copy psglxx.exe on a blank DOS formatted 1.4Mb diskette, do not open the file. Close the Passage application. Insert the diskette in the PC A: drive and click on the psglxx.exe icon: the 'installer verify' runs for one minute. After acceptance of the license agreement, a pop-up menu shows **Passage** as

the destination, click on 'Install'. The Passage icon shows on the desktop.

Maintenance/Update key

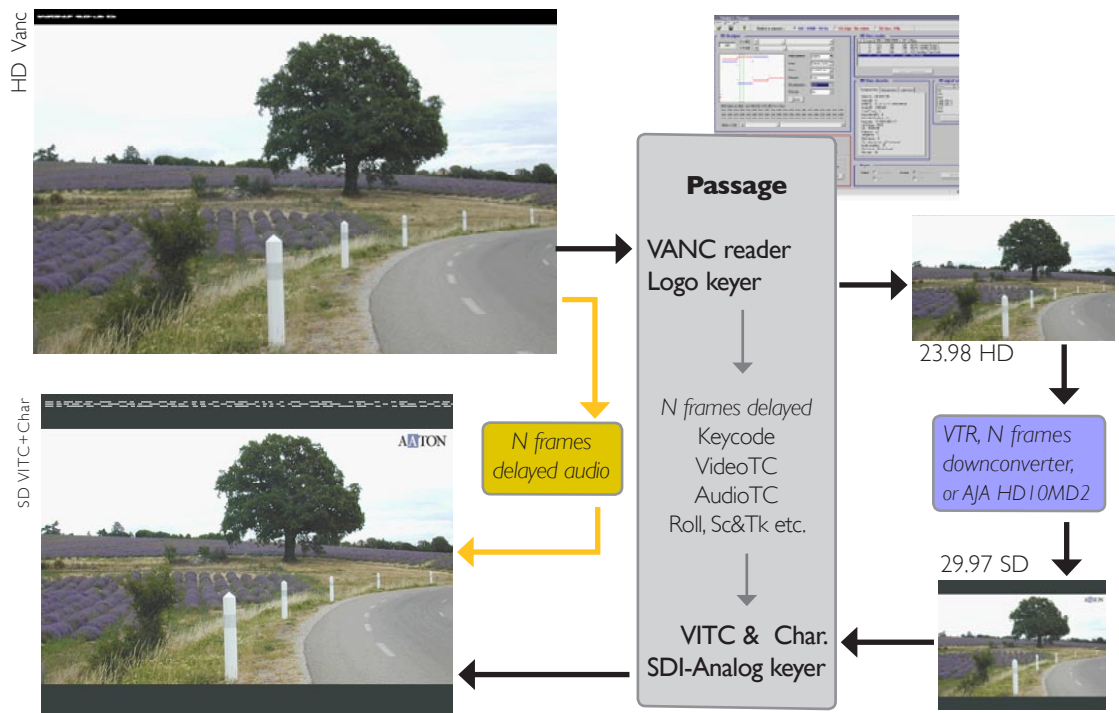
Copy pmunn.exe on a blank DOS formatted 1.4Mb diskette. Do not open the file. Insert the diskette in the PC A: drive and click on pmunn.exe. Acceptation of the license agreement triggers the installation. Click OK, Passage is ready to work.

Passage User Manual

On <http://labs.aaton.com/>, get the full user manual. Reminder: The Passage waveform monitor is a full featured HD analyser; it gives facility engineers access to each pixel of an HD image with no need to buy an expensive HD waveform monitor:

The instructions below only apply to the installation of Passage in a standalone PC, not in an InDaw:

The Aladin purple dongle being out of the USB socket, explore the "Windows Passage Service Upgrade" CD-R by double clicking the CD-ROM icon in 'My Computer'. In the "3.USB DONGLE DRIVER" folder; double click 'HDD32.EXE'. "Install shield self-extracting exe" [Yes]. "Warning hasp device driver setup" [Yes]. "HASP device driver status" [Next]. "Setup option" click [Custom] in the menu. "Key search" select () USB only [Next]. "Parallel port mode" automatic selection [Next]. "Computer Type" IBM [Next]. "Confirm your selection" [Next] [Ok] [Finish].



How does InDaw handle standard slates?

Three steps:

- **Tape to disk recording:** InDaw non-stop digitizes and reclocks the tapes, the operator on-the-fly keys a prelocator mark on each slate, and key-in their Sc&Tk IDs (if the on-location recorder is set in 'free-run' InDaw records each take in a separate file).

- **PreLog:** with the [tab] key the operator scrolls the slates, listens to the Sc & Tk ahead of the slate (high precision located by the InDaw waveform analyser), and confirms or modifies the prelocator entered Sc&Tk IDs. They are correlated to the audio-TC and stored.

- **PostSync:** High speed shuttling from slate to slate through the video tape, the operator links the Prelog entered Sc&Tk IDs which match the ones seen on the video monitor. The slate immediately comes in-sync, its audio-TC is attached to the tape video-TC and recorded in the ATN/ALE transfer list. InDaw's seek-time is so short that playing the video tape makes the audio come in sync from the very first image of each take, it is thus possible to non-stop dub the audio onto the videotape and mirror DAT (if need be). The audio CD-R sent to the Avid station is thus correlated to the video-TC and allows the avid to perform an instant 'auto sync' of all takes.

How to sort and extract Wild Tracks?

The takes which carry the 'w' takes entered by the Prelog operator can be sorted and recorded at the end of the dailies video tape (see the W button), but we recommend you burn a CD-R for the editor to get permanent access to all wild tracks: the .BWF files are directly ingested by Avid v11, but for Avid v7.6 they must be converted to OMF with the AtonXfer converter that you can download for free on <http://labs.aaton.com>.

Is it still necessary to start the audio recorder seven seconds before the camera?

Thanks to the faster than two frame seek time of InDaw, there is no longer a need for audio pre-roll: the tape recorder can be switched-on while the camera starts rolling. Furthermore the PreSilence feature adds up to 9 sec of silent leader to let the Avid 'group clip' show the start-of-take images in case the sound engineer starts his recorder *after* the camera!

Why DATs are drifting in AatonCode/Arriccode mode?

A DAT recorder drifts when its audio sampler is not synced to its Smpte clock. The problem becomes very visible when the Smpte timecode is generated by a TCXO external clock!

By realigning the 48K sampling rate to the recorded Smpte LTC 'second', InDaw totally eliminates this very common drift.

What's the meaning of the TimeCode separators?

01.02.03:04 is an actually read Audio-TC. 01 02 03:04 is an extrapolated Audio-TC. 01:02:03:04 is a calculated Audio-TC from the link point.

How to import BWF files in Avid v7 (AtonXfer) ?

The AtonXfer BWF→OMF converter ensures the importation of BWF sounds w/. timecode into old Avid v7 film composers.

This application, made for old Avid v7, runs on Mac v9; it is available for free on <http://softs.aaton.com/>

(only InDaw and Cantar recorded files can be handled).

The AtonXfer2 icon should permanently stay on the Macintosh desktop.

A. CD-Roms carrying the InDaw recorded .bwf files must first be copied onto one of the Mac hard-drives (most CD-R readers are not fast enough to directly feed the AtonXfer converter).

B. Drag the .bwf files (no .txt, no .idf nor .idw files) onto the AtonXfer icon. The .bwf to .omf conversion of a two channel, 16 bit file on a Mac G4 machine takes one tenth the audio real time to complete.

Since the files are first copied to the available physical RAM for processing, make sure you have more physical RAM than the file(s) size you are converting. They must fit within the RAM. Virtual memory will NOT work.

C. Conversion done, import the .omf files into the project where they will be available for play once parsed under AIFF.

D. To perform a 'group sync', copy and paste the 'Snd-TC' column into the 'Auxilliary-TC' column of the audio bin, and copy and paste the camera 'Film TC' column into the 'Auxilliary-TC' column of the image bin.

E. If the Avid shows 'TC not matching', verify that the sound and film dates are *identical*, not only showing the same day but the same Year/Month/Day order, e.g. 2004-09-24 (NOT 09 24 04). If not, batch modify the incorrect date column(s).

How to perform audio-video auto-syncs on Avid v7?

1. The Avid v7 should be a FilmComposer.

2. The files should have been bounced to 16bit, polyphonic, .bwf extension files; they should have been OMF converted through AtonXfer.

3. On the Avid, before performing a 'group sync', paste the Snd-TC values into the Aux-TC column in order to match the film-TC moved in its own Aux-TC column too.

4. Copy the 'shoot date' column of the bin into an 'Aaton date' column in which wrong date entries can be corrected; place this column before the 'Aux-TC' (where the film-TC is stored),

key [apple/e] to sort the files by ascending date & time. If the Avid shows 'TCs not matching', verify that sound and film dates are identical, i.e. carrying the same day and the same Full-Year/Month/Day syntax, e.g. 2001-09-23. If not, batch modify the date.

See below the Avid v11 'EDL Manager' settings for Protocols/Titan-3 auto-conforming.

How to perform an AutoConform w/. Avid v11 or v7 EDLs

1. The original monophonic files (tracks) should have been bounced into one polyphonic stereo file, 16 or 24bit, .wav or .bwf. The Avid v11 creates an audio bin on the desktop.

Monophonic stereo files should be grouped (synced) before performing the audio/video sync on an Avid filmcomposer. To avoid that burden and save time it is recommended to bounce them into one polyphonic stereo file prior to importing them.

2. Once the sounds are copied from CDR or DVDR to the hard drive you can instantly auto-sync images and sounds by importing the InDaw made ALEs which carry the video/audio sync points. Please apply the '3&4' instructions found in 'Syncing audio on Avid v7' above. If the sync operation has not been ensured by InDaw, slate syncing is done manually in the standard way.

3. Before editing, the TapeID column which carries the Cantar TakeTags (CZ7845) should be duplicated and put into the SoundRoll column of the audio bin.

Later, when it comes to generate the edit list with the EDL Manager, select SoundRoll instead of Tape as the source, and select 'Trunc end'= 8 characters.

4. Important notices: for a film shot at 24fps, select 'Output-24' even if the film has been transferred in 'PalVideo'; the EDL must be CMX 3600 and can only contain 4 audio tracks and no video.

Titan-3 'Cantar rules'

If your Titan-3 software doesn't feature the Cantar option, it can be downloaded from

<http://www.synchroarts.com/beta/Cantartsc>

(select Save As...). Put it into the 'Scan Control' folder which is the Titan directory. The option will then appear in the file selection rules.

The way the 'Cantar rule' works is to use the first 6 digits from the file name and first 6 digits from the 'sound roll' name in the EDL; then to look for a number preceeding the .wav which identifies the channel. For multi channel files the track will default to 1 if no track number is found. The Cantar rule also handles the (-) and (+) identifiers which replace the (L) on MS and stereo pairs.

How does the Aaton file naming system work?

Cantar and InDaw generate file names made of three parts:

1. TakeTags

A PC 8+3 filename, e.g. **ST1254_1.wav** carry a six character 'TakeTag' (**ST1254**) which links all the files born from a given audio take; these 'never twice the same' tags are stored in the 'one folder per working-day' system of Cantar. The 'never twice the same' TakeTag is automatically generated by Cantar during the RECORD session, and should **never** be modified in the post-prod process since it is the absolute link between the original files, the bounces and the EDL generated by editing machines.

The first six characters 'TakeTag' of the filename ensures error free tracking between

1. the original mono files (to be later used by Protocols, Pyramix and Sadie),
2. the bounced files used by the editing system, and
3. the 'source' names used by the CMX EDL going to the auto-conforming system (such as SynchroArts Titan3).

2. Scene Descriptors

Operator keyed descriptors, e.g. Sequence: 123A Scene: 14R Take: p12, are not used to identify the files, they are embedded as file metadata, and can be modified/corrected at any time. Operator entered they are error prone, so they are not used as automatic file sorting identifiers, just as manual sorting helpers. They are added (between == signs) in the file names which appear on the computer desktop. (for MacOS compatibility the longest filename is limited to 31 char.)

ST1254==123B;14R_12==_1.wav

ST1254==123B;14R_12==_8.wav

Note: do not superficially modify a filename by editing the descriptor on a PC desktop, it is wiser to use InDaw or the free Majax application to correct the scene and take metadata _inside_ the file.

3. Suffixes

(_N) is the track rank. (-N) designates an MS pair: M is always on an odd track and S on an even track. An MS pair is automatically stereo decoded for playback and bounce: M+S goes to the left, M-S to the right. An (+N) suffix designates a stereo pair: odd goes to the left, even to the right.

How do you handle the monophonic and polyphonic file shuffle?

First of all it's very important not to confuse the *automatic interleave* of monophonic files into a l-o-n-g polyphonic file, and

the *subjective mixdown* (bounce) of monophonic file mothers into a short stereo file daughter. To differentiate mothers and daughters Cantar, InDaw and Majax work the same way: they replace the _N suffixes by an AA suffixes in the following way:

I. MixDown of monophonic files into a polyphonic stereo

Performing a mix is not an automatic process and the successive resulting files must be differentiated to be stored. The Taketags and descriptors remain the same, only the suffix changes, its first letter flags the origination machine (C for Cantar, A for Majax, B for Indaw, etc.) the second letter W to Z identifies the successive mixes.

ST1254==123B;14R_12==AX.wav is a Majax made fourth try bounce.

This method lets a post-operator propose different bounces (AU to AZ) without destroying the original (CW) made in Cantar by the on-location recordist himself.

Note: MS pairs carrying hyphen separators ('M' on odd, 'S' on even tracks), are decoded before bounce.

2. Interleaving monophonic files into a polyphonic file

The interleaved file extensions should avoid conflicts with any of the original file extensions.

When interleaving N monophonic files into a single polyphonic file, the TakeTag and descriptors remain the same and the suffix becomes P for Polyphonic plus N as an indicator of the number and lay-out of the monophonic original files **ST1254==123B;14R_12==P8.wav** (since interleaving is an automatic dumb process there is no need to identify the originator nor the successive performances)

If ST1254_1 to ST1254_8 are the file names of an eight monophonic file group, we get the polyphonic files below:

An odd number is related to the lower rank file number of a two track interleave, and even number is related to the higher rank of an all track interleave.

ST1254P1.wav [Poly made of tracks 1 & 2]

ST1254P3.wav [3 & 4]

ST1254P4.wav [1 & 2 & 3 & 4] (1)

ST1254P5.wav [5 & 6]

ST1254P6.wav [1 & 2 & 3 & 4 & 5 & 6] (2)

ST1254P7.wav [7 & 8]

ST1254P8.wav [1 & 2 & 3 & 4 & 5 & 6 & 7 & 8] (3)

ST1254P9.wav [Poly made of tracks 9 & 10 (hexadecimal A)]

(1) Poly 4 track from Deva-II

(2) Poly 6 track from PD6

(3) Poly 8 track from Majax

Tips

o. Nagra-D is sensitive to playback LTC mis-settings, e.g. syncing a 30 fps tape to 29.97 creates LTC breaks. Verify the LTC numeration is identical to the LTC-out setting, timecode breaks are not detected otherwise. Nagra-T-audio should be set in Roller Update 'ON' to avoid wild chasing on large TC holes between breaks.

o. timecode fps turns to [??] during 'record': Check the location DAT recorder is set in EXTERNAL REC for the TC. Check the DAT reader is in REC RUN for it to read and generate the time code from the tape. Do NOT slave the DAT to a reference (video or word clock), let InDaw handle sample rate vs LTC discrepancies!

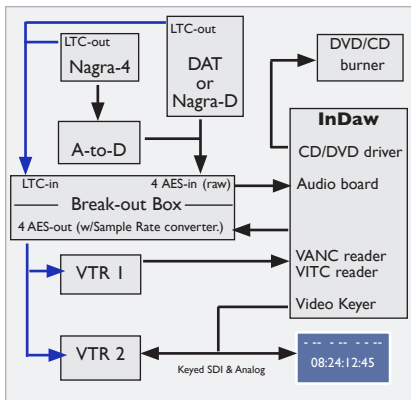
o. switch-off the 'confidence recording' mode when recording sounds on Digibeta VTRs. 'Confidence' delays the VITC which syncs InDaw by two frame late.

o. switch-off the 'EE' mode when recording sounds on DVcams (e.g. DSR-2000P), it delays the VITC by three frames.

o. Syncing InDaw sounds on an Avid FilmComposer

Before performing a 'group sync', paste the Snd-TC values into the Aux-TC column in order to match the film-TC moved in its own Aux-TC column too. Copy the 'shoot date' column of the bin into an 'aaton date' column in which wrong date entries can be corrected, place this column before the 'Aux-TC' (where the film-TC is stored), key [apple/e] to sort the files by ascending date & time.

If the Avid shows 'TCs not matching', verify that sound and film dates are identical, i.e. carrying the same day and the same Full-Year/Month/Day syntax, e.g. 2001-09-23. If not, batch modify the date.



External Connections

Facility must provide active loudspeakers, 17"VGA monitor.

PC chassis

[1] [5] **Dongle** either a 'BlueKey' on the printer port [1] or a 'Pink Aladin' on the lower USB socket [5].

[2] **VGA monitor** (subD-15F), 17" CRT minimum, or a Flat Screen with 65000 colors or more, 1024x768.

[3] **Keyboard and Mouse** (mini DIN).

[4] **COM2** (subD-9M), to control DAT or VTR (pin2=Tx, 3=Rx, 7=grnd) use the RS232/422 level translator cable delivered with the PC. which works for short distance. If you must go through a switcher use an active RS232/422 translator such as the Addenda model #RS-2/8 (*it is not deliverable by Aaton, please contact www.addenda.com/*).

[6] **Ethernet** (RJ-45) 10-100 base-T. (Through optional ISA board on Simatic PC-830)

[9] **COM1** (subD-25M) for the Slaved-to-422 option. Insert an RS232/422 translator such as the Addenda model #RS-2/8, www.addenda.com/ and an Rx/Tx crossover cable.

Internal Boards

*IRQ dictated, board placement must be **respected** for each PC model, see opposite pictures. Note: current PC is Siemens PC-840.*

[10 & 11] **ADX reader-keyer** (subD-3V) for Post-Sync option. Through subD-3V / 3xBNC expanders, SDI video to the bottom socket [10], Analog video to the top socket [11].



SubD-3V to 3xBNC expander

Note: this board can be replaced by a simple Analog VITC reader board (no keyer option) installed in the same 9th slot, see page 16 also.

[13] **SCSI-3**. When connecting a Centronic device to the SCSI-3 board, remember that many "Scsi-3 to Centronic" cables don't comply to specs. If at start-up the CD-Rom burner answer-back is not immediate, get an Aaton 70 500 26 or a certified cable to bring the proper load on the unused Scsi-3 pins.

[14] **HDK** (BNC) HD-292 in/out. Delivered with the HD PostSync option (which works in InDaw-MX only). Note that the HDK-292 board can be installed in InDaw to run the "Passage" software also (see page 10).

[15] **Analog Genlock** (BNC) optional, this video input is used to directly sync the SRC board to analog video (external 75Ohm termination needed).

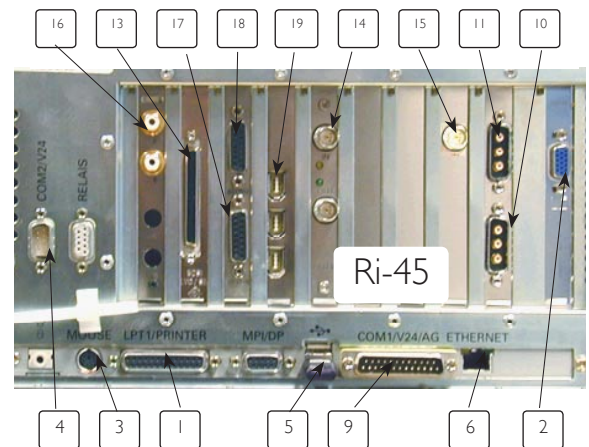
[16] **Two analog out** (Cinch) At -10dB and non S/N specified, these audio signals are to be used for monitoring PreSync and PostSync operations.

Connections (1 of 3)

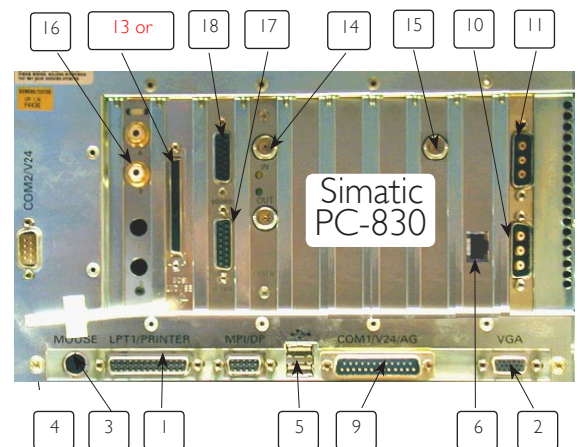
[17] **SRC Options (LTC)**, [18] **AES** (subD-15F) to the break-out box. The SRC board brings sample rate to an exact 48ks/sec. extracted from the audio tape LTC track. Only use the audio tape LTC to let InDaw correct the drift alone, do NOT lock the playback machine (DAT or Nagra) to a video reference signal !

[19] **Firewire** Optional board for InDaw-MX only. (replaces the SCSI board (13) on Simatic PC-830).

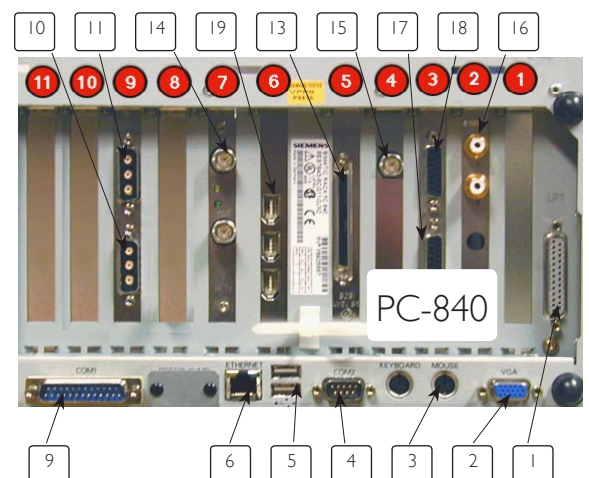
Windows-2000

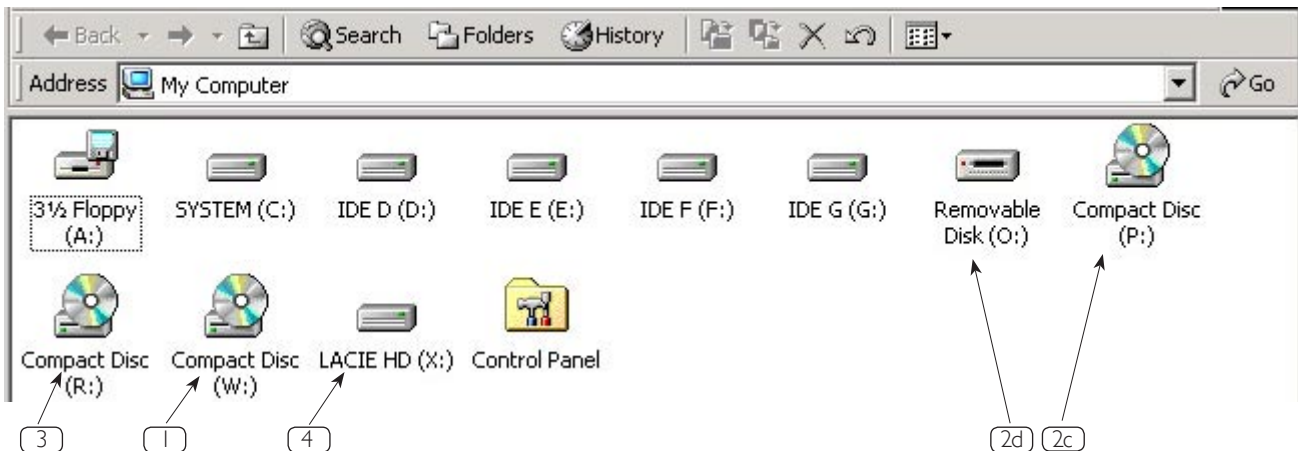


Windows-2000



Windows-2000





DISK DRIVES

Carrying sound files in and out InDaw can be done by Ethernet, SAN or physical medias. The screenshot above shows the desktop icons of a typical PC in which many types of medias and drives are in use:

Removable Medias (DVD-Ram, DVD+R, CDR)

Reliable and inexpensive the DVD+R technology is currently the best to physically store and transport audio files.

(1) **Internal DVD±R & CDR burner/player**, currently a Pioneer 106D connected in slave mode on the HDD ULTRA DMA ribbon. Disks are either burned with the built-in DVD±T InDaw software driver, or using a host burner driver such as Gear.

(2) **External DVD-Ram**, currently a LaCie using a Matsushita drive. FireWire connected. Following the AES3 I-1 BroadcastWave recommendation (BWF), InDaw records the DVD-Ram under FAT32 format.

(Windows takes about twenty sec. to recognize a DVD-Ram disk, be patient).

(3) **Internal CD-Rom player**, currently an Mitsumi, IDE. Is to be used to play the Cantar recorded mixdown of the day.

Removable Hard Drives, FireWire linked

FireWire is the most reliable way to connect a removable hard drives to a computer. The advantage over SCSI is the hot plug-ability (provided the disk is software unmounted before it is physically disconnected).

(4) **External hard drive**, currently a LaCie 40 or 60GB. FireWire connected, Fat32 formatted; used to carry the audio files to a Keylink-IP working under Windows-2000.

Removable Hard Drives, SCSI linked

Preliminary notice: Rorke SCSI carriers and frames were made for AT/IDE **Ultra2**, they are now manufactured for ATA/100 **Ultra160** only. New carriers and frames are incompatible with former ones: an Ultra160 carrier can't fit into an Ultra2 frame, nor a former Ultra2 carrier into Ultra160 frame. To expand your HDD fleet you must buy empty carriers and frames, and install your current

Ultra2 HDDs into Ultra160 carriers.

We put bright yellow stickers to warn operators about this incompatibility.

SCSI-3 terminations

When a Rorke removable hard drive and a CD-Rom reader are both internally connected, the CD-Rom (through a B3/2 Scsi converter if need be) must be in first position in 'term off', then the Rorke in 'term on'. If the CD-Rom is connected only, it must be placed at the end of the flat ribbon in 'term on'. Be careful when connecting DVD/R and CR-Rom burners on the same SCSI chain, most external drives do not come with a built-in Scsi termination, don't forget to plug one.

Notes on HDD formatting

Note1: An InDaw-5 (DOS) recorded, FAT16 formatted disk can be read by all Keylink InstaSync (DOS to Windows-2000).

An InDaw-6 (WindowsNT) recorded disk can be read by a (DOS) Keylink Instasync provided it is FAT16 formatted (8Gb maximum) with smaller than 2Gb partitions only.

Note2: If you use Windows-2000 to format a disk under FAT32, it will be 'secondary' partitionned, this is not a problem for InDaw nor Keylink-IP but it can't be used on Cantar which needs 'primary' partitionned disks. To get FAT32 primary partitions you must use a third party software such as 'Partition Magic'.

unscrew to remove the top lid



Connections (3 of 3)

AATON Board Installation

If InDaw doesn't start, verify all boards are correctly plugged, A 'Yes' should appear opposite the board names in 'About InDaw'. To open the PC840 cabinet unlock the top cover by unscrewing the Philips screw on the front panel.

DIGITAL AUDIO player: SRC-3

Four AES & two analog (-10dB monitoring) video-synced outputs at 48Ks, 47.952Ks (Dirto Disk), 46.xxxKs (25@23.98) & 50Ks (24@25). When installing this board, the analog 'Video-VTG-In' must be connected to the ADX 'VideoSync Out', and the 'HD Odd/Even' to the 'Video CCIR-In' (twisted Molex cable). The audio disk loading message is white-on-red if the internal video routing is OK, it is white-on-blue if it is not.

HIGH DEF reader/keyer: HDK-292 (optional)

SMPTE 292M - 1.5 Gb/s HD Serial Digital Video. SMPTE 274M (1080/24, 25, 29,97 etc.) and SMPTE 296M (1280/50, 720/59.94) scans. Indaw-MX reads FILMVANCs to synch sound and HD video. This board is also used by **PASSAGE** to read HD VANCs ahead of downconverters (Snell, Teranex, X-Box, Evertz or HD-Cam and HD-D5 VTRs). The VANC extracted data is then inserted by the ADX board in the 3lineVtc and Characters of the SDI video.

When installing the HDK board, don't forget to connect the 'odd/even' twisted Molex cable as indicated in the drawing below.

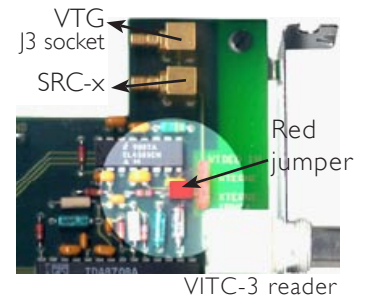
ANALOG + SDI Vitc reader/keyer: ADX-v3 (optional)

A Dual channel Composite/Component keyer for 3LineVtc, VirtualSlates & Characters, plus a dual channel CCIR601 keyer. Note: 3line VITC insertion doesn't update nor modify the 601 signal EDH. If an ADX board is to be carried over from a **Siemens Ri-45** into a PC840, it must be factory updated to an ADX-v3 board.

ANALOG Vitc reader: VITC-3 (optional)

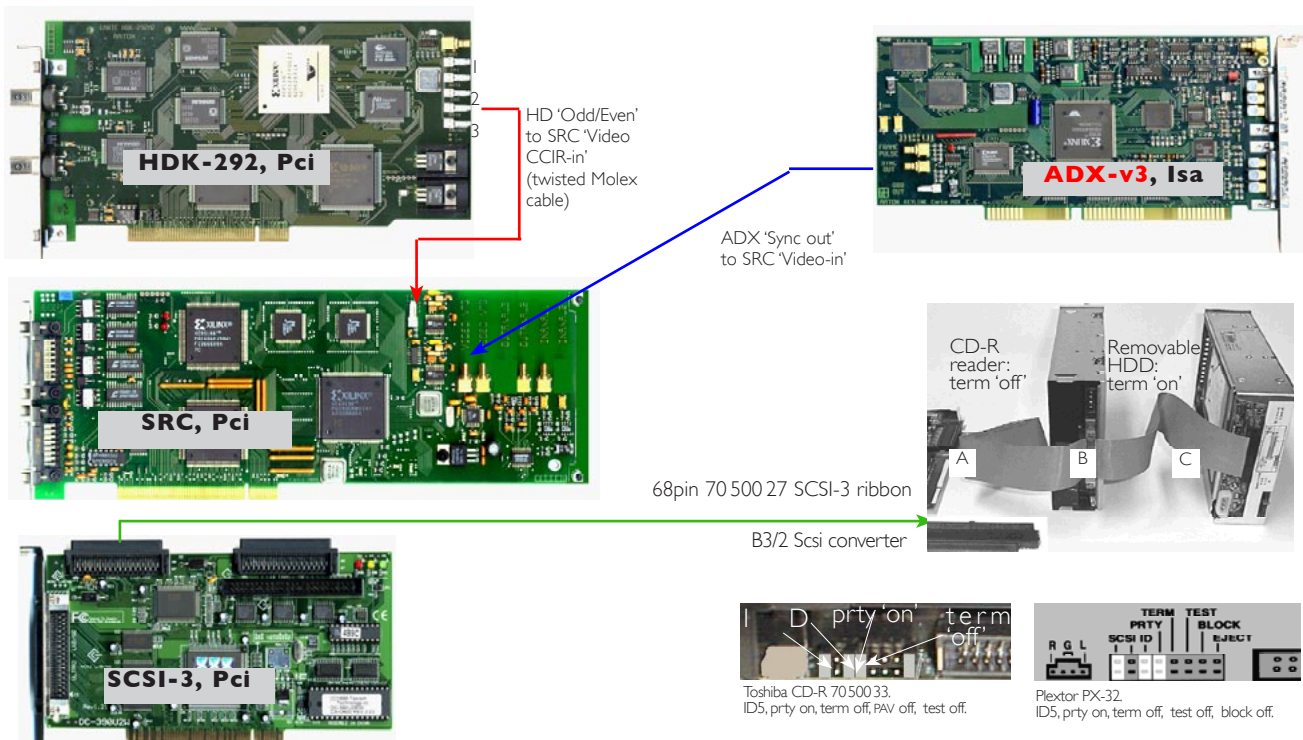
Analog video Vitc reader only, the VITC-3 reader is now replaced by the ADX Analog-Digital reader-keyer; but it's still used in cheaper installations not requiring character insertion in the digital domain.

(1) if the VITC-3 reader board is alone, the jumper is plugged to bring a 75 Ohm termination. (2) if both VTG keyer & VITC-3 reader are installed, the jumper is removed since the VTG J3 socket ensures the 75 Ohm termination.



SCSI driver: SCSI-3 (special order)

This board is no longer installed in InDaw-MX; Rorke disks being progressively outmoded by FireWire connected Pocket Drives, it is now replaced by a FireWire 400MHz board.



Migration from InDaw-6 (NT/RTX-4) to InDaw-MX (2000/RTX-5), using an Aaton configured hard drive containing Windows 2000 & RTX-5

(if necessary, an IMUnnnn and an Aladin USB #nnnn dongle are delivered too)

A- Preliminaries.

1- Your current customer projects will go away with the old hard drive, you must first copy the C:\INDAW folder, in which they are stored, on a removable drive (or floppy disk) that you will reimport qfter Win=2000 installation.



Siemens RI-45 PC cabinet rear view.

2- Switch-off the PC, remove the mains cable, remove the cabinet top cover. To get access to and exchange the former hard drive (to be sent back to Aaton), you must extract the hard drive holder by unscrewing the

five 'golden' screws (see pic.) located at the rear of the cabinet and by unlocking the internal screw (you need a Tork key but don't remove that screw!) which prevents the HD holder to slide away from the rear to the front of the cabinet. Unplug the hard drive IDE ribbon and pozer supply cable, remove the disk from the holder and replace it by the Windows 2000/RTX-5 disk delivered by Aaton.

3- The internal boards must be reshuffled according to the PC model lay-out shown on page 14 of this manual.

4- If your InDaw was running with a 'Printer Port' blue key dongle, REMOVE it and plug the 'USB' Aladin dongle into the lower rear USB socket.

B- Setting the IRQs

Start the computer, and looking at the start screen press [F2] to activate the "Setup Utility".

If you are too slow to react you will trigger the SCSI utility screen, and that is not the screen you want!

Exit, and immediatly reboot by (CTRL ALT DEL) to AVOID Windows activation, and try again.

In the "Phoenix BIOS Setup Utility" first press F9 to reset to the default configuration, then using the <- -> arrows, go to "ADVANCED", and with the down arrow select "PCI configuration" [enter]

PCI IRQ 1 [10]

PCI IRQ 2 [5]

PCI IRQ 3 [10]

PCI IRQ 4 [Auto]

[Esc] [Enter] [Yes]

C- Re-install the Back-up Files

Open the Indaw backup drive (see 'preliminaries'), and copy your customer projects back to the C: drive.

D- Install disk drivers

If you use external DVD-Ram or DVD+R disks, reinstall their drivers.

E- Install InDaw version v7.x

Download and install the latest IDW7xx, software from <http://labs.aaton.com/>

Install the Maintenance & Update IMUnnnn delivered with the Aladin dongle.

InDaw is now ready to work under Windows-2000.

NOTE: Migration within a Siemens PC-830

Since three PCI slots are available only, and since there is no built-in ethernet socket in a Siemens PC-830, you can simultaneously install the following boards only:

a- Audio-SCR + SCSI + Ethernet

b- Audio-SCR + FireWire + Ethernet

d- Audio-SCR + SCSI + HD keyer

e- Audio-SCR + FireWire + HD keyer

Migration from Windows-NT/RTX-4 to Windows-2000/RTX-5.

Installation in the PC hard drive itself.

(not recommended operation, better to install a complete disk already configured at Aaton, see preceding page).

A- Preliminaries. (See PC830 note, end of this chapter).

1- Your current customer projects will be lost by this upgrade, you must backup the C:\INDAW folder in which they are stored on a removable drive (D:, E:, etc.) that you will reimport when Windows 2000 is installed.

2- The internal boards must be reshuffled according to the PC model lay-out shown on page 9 of this manual. If for some reason (Passage installation) an HDK-292 HD board has been inserted before the Windows-2000 migration, REMOVE it. It will be re-inserted later during RTX-5 installation.

3- If InDaw runs with an 'USB' purple key dongle, REMOVE it before starting the PC. If InDaw runs with a 'Printer Port' blue key dongle, LEAVE it on its socket.

4- At some point during this installation you must have access to an internet connected PC to get a password from VenturCom <http://support.vci.com/license/licenseform.asp>

B- Setting the IRQs

Insert the WINDOWS 2000 CD-R into the CD-R drive. Reboot the computer by [Start]/[Shutdown]. Looking at the start screen, be very reactive to swiftly press [F2] to activate the "Setup Utility".

Note: if you are too slow to react you will trigger the SCSI utility screen, that's not the screen you want..., the only solution is to reboot (CTRL ALT DEL) and try again...

Into the "Phoenix BIOS Setup Utility" using <- -> arrows, go to "BOOT SEQUENCE", using vertical arrow select "ATAPI CDROM DRIVE" and move it to the top with the [+] key then go to "ADVANCED", using down arrow select "PCI" [enter]

PCI IRQ 1 [10]

PCI IRQ 2 [5]

PCI IRQ 3 [10]

PCI IRQ 4 [Auto]

then [Esc] [Enter] [Yes]

Be very attentive and FAST to react: on the message "Press any key to boot from CD" press [SPACE BAR] (if you miss this message please switch off the PC and retry, next time you will be quicker).

C- WINDOWS 2000 installation

SETUP WINDOWS 2000 [Enter], 'I agree' [F8]

Choose the hilited strip C:FAT 2045 [Enter]

'Continue' [C]. Using the up arrow, select "Format the partition using NTFS file system", press [F] to format the drive.

Windows is now formatting the C: drive, it will install Windows-2000 and reboot the computer.

Please leave the CD in the drive and wait.

When the message "Press any key to boot from CD" appears, DO NOT PRESS any key!

WELCOME TO WINDOWS SETUP WIZARD, WINDOWS 2000 PROFESSIONAL SETUP

"Regional Settings" [Next], "Personalize your software"

Name : INDAW

Organization : AATON [Next]

Product key: (please key the five windows in UPPER CASE)

[Next] (this product key is available in the pack you received from Aaton).

"Computer name and Administrator Password"

Computer name: INDAW-XXX (you should consult your network administrator; this only is an example!).

'Administrator password': paris (LOWER CASE)

'Confirm password': paris [Next]

"Date and Time settings" [Next]

"Networking settings" (the PC runs for two minutes)

"Typical settings" [Next]

"Workgroup or Computer Domain", you must answer [No],

this computer is not on a network, or is on a network without domain [Next].

The computer installs the above and reboots itself. Leave the CD in the drive and wait. When the message "Press any key to boot from CD.." appears, DO NOT PRESS any key.

"Network identification wizard", "User": INDAW

'password': indaw (lower case)

'confirm password': indaw [Next] [Finish] [OK]

Remove the "Windows 2000" CD-R and reboot your computer [start]/[Shutdown] [OK]. Switch off the PC.

Switch on the PC. Computer is rebooting... Right after the very start, and as soon as UMB shows, shortly press [F2] and release it for entering 'Setup Utility'.

In the "PhoenixBIOS Setup Utility" go to "Boot Sequence". Bring the "Hard Drive" at the top with the [+] key. [Exit] [Enter] [YES]

Windows-2000 is now installed.

D- RTX-5 software installation

Put the "Indaw Service Upgrade" Aaton CD-R.

Make a mouse right click on the windows desktop and select "Properties". "Settings" colors: 16 bits, screen area: 1024 x 768 [Apply]

Explore the CD 'Indaw Service Upgrade' by making a double click on the CD-R icon in "My Computer".

In the "I.RTX" folder; click on 'RTX5.I.IaRuntime.exe'

"Welcome" [Next], "Software license agreement" [Yes]
"Venturcom RTX 5.1 setup" [Next], "Product registration",
please enter the PAC Number written on your sticker and your
email address [Next].

WARNING: to the question "Does this computer have a web
access to the internet?" always answer [NO] since you can't
install foreign boards or softwares on InDaw.

"Manual registration". Note the PAC (four sets of characters)
and Machine ID (18 characters) on a piece of paper and keep it
with you while you go to a PC/Mac where you get an internet
connection to the VenturCom website [http://support.vci.com/
license/licenseform.asp](http://support.vci.com/license/licenseform.asp)

Follow the webpage instructions, enter the PAC and Machine ID
into the edit boxes, enter your 'EXACT' e-mail address, you will
immediatly receive your license key.

Back to the Indaw station, enter the licence key:

"RTX license key" (RTX-...-...) [Next]

"Choose destination location" [Browse]

change path from 'files\venturcom\' to 'C:\Program Files\VC\I
RTX', [OK] to create, then [Yes]

"Select a program folder" (accessories show by default) [Next]

"Start copying files" [Next], "Setup complete" select [•] for
'Yes I want to restart' [Finish].

The computer should reboot itself, if it doesn't, switch it off by
pressing the PC front panel on/off button.

E- RTX and internal boards

[Start]/[Programs]/[VenturCom Rtx]/[Rtx properties]
"Plug and play". Uncheck [] shows filtering list at the bottom-
left of the menu. Make a mouse right click on "Multimedia
audio controller", select "ADD RTX INF Support". [Apply]
[Ok].

[Start]/[settings], click on [control panel]/[system], double
click on [hardware]/[device manager]. Go to the yellow
question mark, make a mouse right click on "Multimedia Audio
Controller", a "Confirm Device Removal" menu opens. Select
"Uninstall..." [OK]. Reboot the computer by [Start]/[Shutdown]
Computer is rebooting: 'RTX installs Multi Media board'.

[Start]/[Programs]/[VenturCom Rtx]/[Rtx properties]
"Plug and play" in "RTX properties" make a mouse right click on
"Multimedia Audio Controller" and click "Properties"
"Rtx PCI Device Properties". In the "Disposition" pane, select
"Shared" [OK] [Apply]

*Switch off the PC by [Start]/[Shutdown] and if applicable,
INSTALL THE HDK CARD (see 'preliminaries' page one)
otherwise directly go to the F section.*

F- RTX and the HD board

[Start]/[Programs]/[VenturCom Rtx]/[Rtx properties]
"Plug and play" (etc., etc., please execute the very same

operations as in E- RTX and Indaw boards) till "Shared" [OK]
[Apply].

G- RTX and external devices

[Start]/[settings], click on [control panel]/[system], double
click on [hardware]/[device manager], double Click on "Ports
(COM&LPT)", make a mouse right click on "Communications
Port (COM1)", Select "Disable". To the question "Disabling this
device ..." [Yes]. Close 'Device Manager', 'System Properties'
and 'Control Panel'. Double click on the CD-ROM icon in
'My Computer' then explore the CD Windows 2000 Indaw
Service Upgrade. In the "2.ASPICD" folder double click the
'ASPIGHT.EXE', "Aspi drivers for windows installation" opens,
[Next] [Next] [Finish]. Close the pane.

H- Dongle activation (ALADIN purple dongle only)

The dongle still being out of the USB socket (see 'preliminaries'
page one), explore the 'Windows 2000 Indaw Service Upgrade'
CD-R by double clicking the CD-ROM icon in 'My Computer'.

In the "3.USB DONGLE DRIVER" folder, double click
'HDD32.EXE'. "Install shield self-extracting exe" [Yes]

"Warning hasp device driver setup" [Yes]

"HASP device driver status" [Next]

"Setup option" click [Custom] in the menu

"Key search" select (.) USB only [Next]

"Parallel port mode" [Next]. "Computer Type" [Next]

"Confirm your selection" [Next] [Ok] [Finish].

Connect the USB ALADIN dongle, the dongle LED shows after
a few seconds, indicating that everything is OK.

Explore the 'Windows 2000 Indaw Service Upgrade' by double
clicking the CD-R icon in 'My Computer'.

In the "4.BEFORE INDAW" folder, double click 'IFIRST2.EXE'
[Setup]. If need be, if the last the black screen remains in
waiting mode, press [Spacebar], the 'ifirst' notepad shows, close
it as well as all opened screens.

I- Re-install the Back-up Files

Open the InDaw backup drive (see 'preliminaries'),
and copy the projects back to the C: drive: InDaw is now ready
to work under Windows-2000.

Note: if during InDaw first start-up under Windows-2000
the following warnings "Bad Sorter IRQ" or "Bad ADX IRQ"
appear; close the InDaw application and immediatly reopen it.

J- Install Indaw version v7.x

Download the most recent InDaw-MX version 7.xx on
<http://labs.aaton.com/>